

SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

2102-F21-R-45

Name: Wicksville Dam

County: Pennington

Legal description: Sec. 32. T2N R13E

Location from nearest town: 1 mile East of Wicksville

Dates of present survey: July 6, 2011 and June 29-30, 2012

Date last surveyed: June 9-11, 2003

Management classification: Warmwater Marginal

Primary Species: (game and forage)

1. Largemouth Bass

2. Bluegill

Secondary and other species:

1. Yellow Perch

2. Black Crappie

PHYSICAL CHARACTERISTICS

Surface Area: 6 acres

Watershed: 1,664 acres

Maximum depth: 16 feet

Mean depth: 9 feet

Lake elevation at survey (from known benchmark): One foot below full-pool

Ownership of lake and adjacent lakeshore property:

The land adjacent to most of the lake is owned by Pennington County. South Dakota Game, Fish and Parks (SDGF&P) has a 50 year agreement with Pennington County and the area around Wicksville Dam is managed as a Game Production Area (GPA).

Fishing Access:

Wicksville Dam has very limited shoreline fishing access due to dense emergent vegetation growth. There is one open area on the north side where anglers launch small boats.

Observations of Water Quality and Aquatic Vegetation:

Wicksville Dam is almost entirely surrounded by emergent vegetation consisting mostly of cattails and rushes. There is also some submergent vegetation in the summer around the shoreline going out towards the deeper water. Game, Fish, and Parks personnel observed no obvious pollution problems during the 2012 survey.

Describe condition of all structures (i.e. spillway, boat ramps and docks, roads, etc.):

No problems were observed during the 2012 survey. There are no concrete boat ramps, docks or fishing piers at Wicksville Dam.

MANAGEMENT OBJECTIVES

Objective 1. Maintain a moderate to high density of largemouth bass with PSD range between 20 and 40.

Objective 2. Maintain a bluegill fishery with a trap net CPUE-S greater than 20, a PSD of at least 20 and PSD-P of 5 or greater.

BIOLOGICAL DATA

Sampling Effort and Catch

The fishery survey in Wicksville Dam consisted of four modified fyke (frame) nets consisting of a 1.3 X 1.5 m frame, 19.1 mm (0.75 in) mesh and a 1.2 X 23 m (3.9 X 75.5 ft) lead (Figure 1). Additionally, angling surveys were conducted in 2011 and 2012, totaling 7 angler hours.

Four fish species were collected during the 2012 netting survey of Wicksville Dam. These species included Largemouth Bass, Bluegill, Yellow Perch, and Black Crappie (Table 1). Previously Black Bullheads have been collected from Wicksville Dam but none were found during the 2012 survey, possibly due to a die off in the early to mid-2000's due to low water levels.

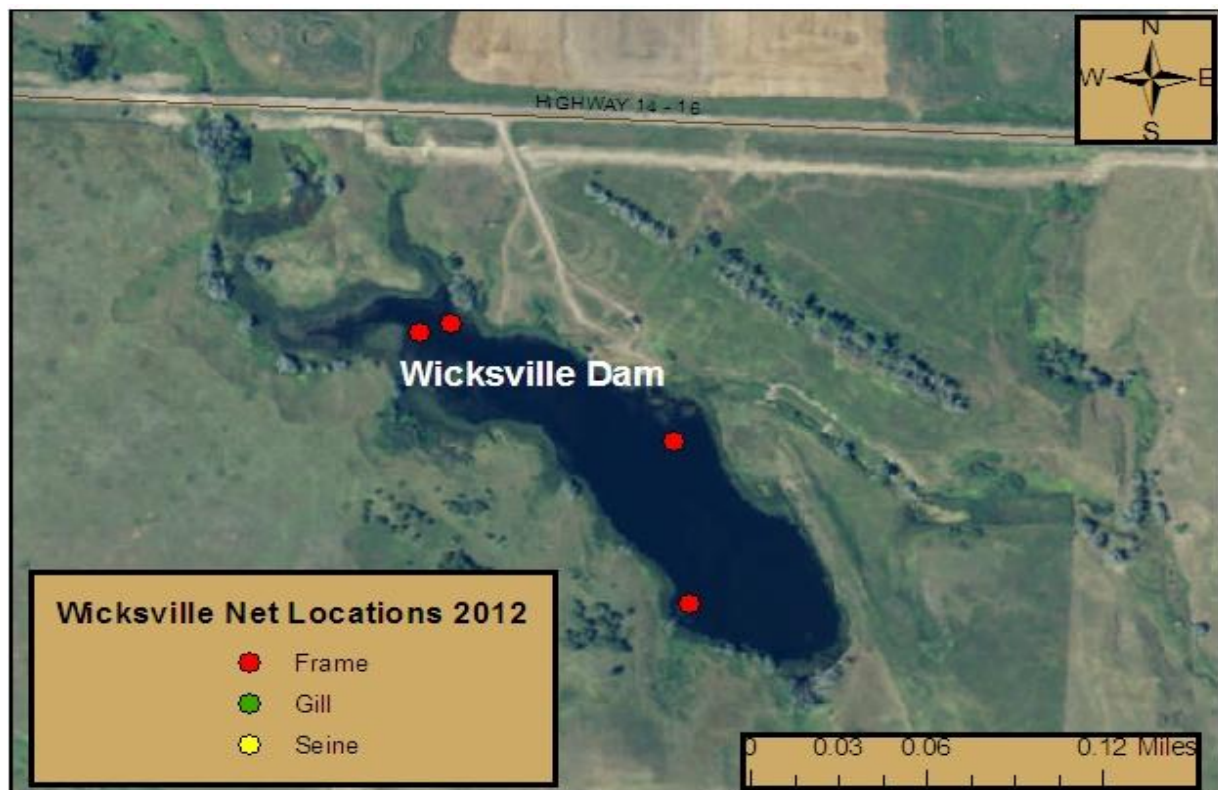


Figure 1. Wicksville Dam fisheries survey net locations 2012.

Table 1 Species, number captured (N), catch-per-unit-effort (CPUE and CPUE-S), proportional stock densities (PSD and PSD-P), and relative weights of fish greater than or equal to stock length ($Wr \geq S$) during a modified fyke (frame) net survey in Wicksville Dam, Pennington County, South Dakota, June 29-30, 2012. CPUE's with 80% confidence intervals in parentheses. PSD and $Wr \geq S$ with 95% confidence intervals in parentheses.

Species	N	CPUE	CPUE-S	PSD	PSD-P	$Wr \geq S$
BLG	278	69.5 (34.1)	69.5 (34.1)	18 (5)	0	98.6 (1.9)
LMB	17	4.3 (3.9)	0.75 (1.3)	0	0	100.4 (23.3)
YEP	13	3.3 (3.2)	3.3 (3.2)	77 (23)	8 (16)	88.2 (3.2)
BLC	1	0.25 (0.4)	0.25 (0.4)	100	0	99.9 (--)

Bluegill

Wicksville Dam was stocked with Bluegill in 2008 after the drought. Bluegill was the most abundant species collected in frame nets during the fisheries survey of Wicksville Dam. The mean catch per unit effort (CPUE) for Bluegill was 69.5 (Table 1). The majority of the Bluegills surveyed were stock to quality length (3-6 in) with a portion of fish greater than quality length (Figure 2). Proportional stock density (PSD) of Bluegill in Wicksville Dam was 18 (Table 1). Bluegill were in good condition with a weighted mean relative weight of fish greater than or equal to stock length ($Wr \geq S$) of 98.6 (Table 1).

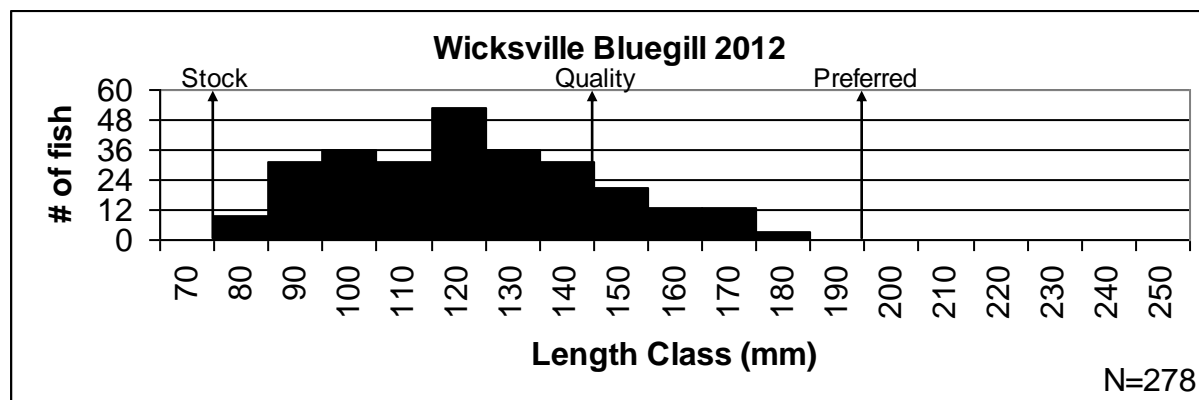


Figure 2. Length frequency histogram for Bluegills collected during the modified fyke (frame) net survey in Wicksville Dam, Pennington County, South Dakota, June 29-30, 2012.

Largemouth bass

Largemouth bass were surveyed using angling in 2011 and 2012. A total of eight and 12 largemouth bass were collected during seven total angler hours in 2011 and 2012, respectively. Scales were collected during the 2012 survey. Ages of largemouth bass surveyed ranged from 1 to 4 which may be representative of the 2008 and 2009 fingerling stockings. Lengths of age-1 (n=5) largemouth bass ranged from 184-197 mm (7.2-7.8 in), age-2 (n=3) fish ranged from 197-223 mm (7.8-8.8 in), and the only age-3 fish collected measured 322 mm (12.7 in). Age-4 (n=3) fish ranged from 343-395 mm (13.5-15.6 in).

The mean relative weight for largemouth bass greater than or equal to stock length in 2011 was 94.1 and 105.3 in 2012. Largemouth bass collected in 2011 ranged from less than stock length (<200 mm: <8 in), stock to quality length (200-300 mm: 8-12 in), and quality to preferred length (300-380 mm: 12-15 in). In 2012, length categories ranged from less than stock length (n=6), stock to quality (n=2), quality to preferred (n=3), and above preferred length (n=1). The variations in size are not necessarily representative of the year as the angling survey in 2011 was completed from shore (where there is very limited access), and the angling in 2012 was completed by boat.

Seventeen largemouth bass were collected in the trap nets as well (Figure 2). The lengths of the largemouth bass in the trap nets ranged from 158-235 mm (6.2-9.3 in).

Other Species

Yellow perch and black crappie were also found in Wicksville Dam during the 2012 survey. Adult yellow perch were stocked into Wicksville Dam in 2010 (Appendix A). Catch was low for yellow perch at 3.3 per net (Table 1). Proportional stock density and proportional stock density of preferred length fish were 77 and 8, respectively (Table 1). Condition (Wr) was 88.2 for yellow perch greater than or equal to stock length (Table 1). There was one black crappie also collected in the trap net survey (Table 1). The fish measured 244 mm (9.6 in) and had a Wr of 99.9 (Table 1).

RECOMMENDATIONS

1. Survey the fish populations every 2 to 5 years to evaluate success of stockings, fish survival, and fish condition and growth.
2. Continue to stock largemouth bass and panfish as necessary to maintain the fishery.

APPENDIX

Appendix A. Stocking records for Wicksville Dam, Pennington County, 2002-2012. (No stockings were accomplished for years not listed.)

Year	Species	Size	Number Stocked
2002	LMB	Fingerling	600
2005	LMB	Adult	50
2008	BLG	Juvenile	300
	BLG	Fingerling	5,000
	LMB	Fingerling	1,000
2009	LMB	Fingerling	2,000
2010	YEP	Adult	200